

## PT8L120SP

# PFC Device Corporation

## 8A 120V HPTR® Schottky Rectifier

## Major ratings and characteristics

Characteristics	Values	Units	
I <sub>F(AV)</sub> Rectangular	8	А	
Waveform	0		
$V_{RRM}$	120	V	
V <sub>F</sub> @ 8A , Tj=125 °C	0.63	V, typ.	
T <sub>J</sub> Operating Junction	40 to 1150	°C	
Temperature	-40 to +150		

#### **Features**

- Super Low Forward Voltage (SLVF®) Drop
- Reliable High Temperature Operation
- Softest, fast switching capability
- 150°C Operating Junction Temperature
- Lead Free Finish, RoHS Compliant
- Green Molding Compound (No Br, Sb)

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## **Typical Applications**

Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications Characteristics PT8L120SP

## 1. Characteristics

Maximum Ratings Characteristics  $(T_A = 25 \, ^{\circ}C)$  unless otherwise specified )

Parameter	Symbol	Values	Units
DC Blocking Voltage	$V_{RM}$		
Working Peak Reverse Voltage	$V_{RWM}$	120	Volts
Peak Repetitive Reverse Voltage	$V_{RRM}$		
Average Rectified Forward Current Per device	I <sub>o</sub>	8	Amps
Peak Forward Surge Current - 1/2 60hz	I <sub>FSM</sub>	140	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I <sub>RRM</sub>	1	Amps
Typical Thermal Resistance			
Thermal Resistance junction to Ambient Note (1)	$R\theta_{JA}$	72	°C / W
Thermal Resistance junction to Ambient Note (2)	$R\theta_{JA}$	30	
Maximum Rate of Voltage Change ( at Rated VR )	dv/dt	10000	V/uS
Operating Junction Temperature	T <sub>J</sub>	- 40 to +150	°C
Storage Junction Temperature	T <sub>STG</sub>	- 40 to +150	

## Electrical Characteristics - (per leg) ( $T_A = 25$ °C unless otherwise specified)

Parameter	Test Conditions		Symbol	Тур.	Max.	Units	
Instantaneous	IF = 5 A	T - 25 °C		0.60			
Forward Voltage	IF = 5 A	$T_J = 25$ °C	I <sub>J</sub> = 25 C	VF*	0.78	0.84	Volte
	IF = 5 A	T <sub>J</sub> = 125 °C	VF"	0.53		Volts	
	IF = 5 A			0.63	0.7		
Instantaneous	VR=90V	T 25 °C		2.0		uA	
Reverse Current	VR=120V	$T_J = 25$ °C	IR*	4.0	200	uA	
	VR=90V	T <sub>J</sub> = 125 °C	IK"	2.5		mA	
	VR=120V			4.0	18	mA	

<sup>\*</sup> Pulse width < 300 uS, Duty cycle < 2%

Note 1. FR-4 PCB, 2 oz Copper. Minimum recommended pad layout

Note 2. Polymide PCB, 2 oz Copper. Cathode pad dimensions 18.8x14.4mm , Anode pad dimensions- (5.6x14.4mm)



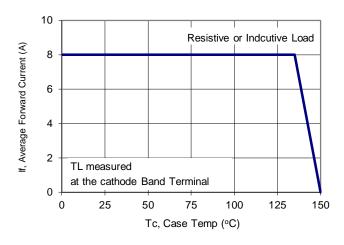
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Characteristics *PT8L120SP* 

## 2. Characteristics Curves

**Ratings and Characteristics Curves** 

(  $TA = 25^{\circ}C$  unless otherwise specified )



1000 Capacitance (pF) 100 10 0 100 1000 10 Reverse Voltage (V)

Figure 1: Current Derating, Case

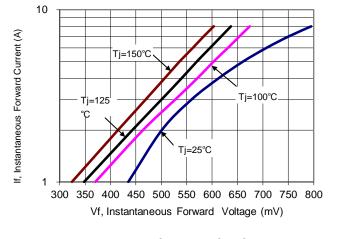
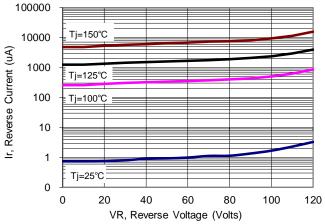


Figure 2: Typical Junction Capacitance



**Figure 3: Typical Forward Voltage** 

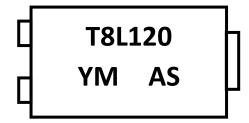
**Figure 4: Typical Reverse Current** 



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## 3. Marking information

#### **Top Marking Rule**



T8L120 = Product Type Marking Code

YM = Date Code

Y = Last one digits of year

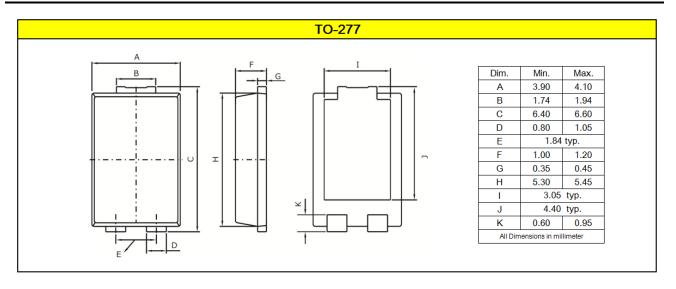
M = Month code

A = Assembly Code

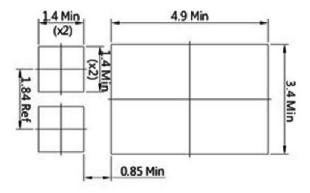
S = Series Number

## 4. Package information

#### Suggested Package Outline Dimensions millimeters



#### Mounting pad Outline Dimensions millimeters



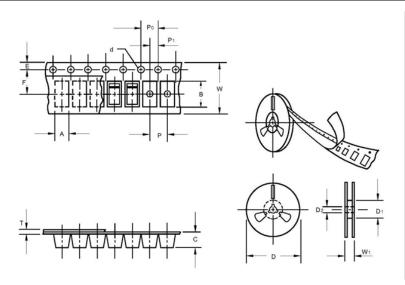


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## 5. Packing and Ordering information

#### Packing information millimeters



Item	Symbol	Dimension
Carrier width	Α	4.4±0.10
Carrier length	В	7.0±0.10
Carrier depth	С	1.4±0.10
Sprocket hole	d	1.5±0.10
Reel outside diameter	D	330.0±1.0
Reel inner diameter	D1	75±1.0
Feed hole diameter	D2	13.5±1.0
Stocket hole position	E	1.75±0.10
Punch hole position	F	7.5±0.10
Punch hole pitch	Р	8.0±0.10
Sprocket hole pitch	P0	4.0±0.10
Embossment center	P1	2.0±0.10
Totall tape thickness	Т	0.3±0.10
Tape width	W	16.0±0.20
Reel width	W1	22.7±1.5

#### **Ordering information**

Part Number	Package	Base Quantity	Delivery mode
PT8L120SP	TO-277	5000	13" diameter plastic tape and reel

#### Mechanical

Molder Plastic: UL Flammability Classification Rating 94V-0

■ Device Weight: 0.003 ounces (0.093grams) - TO-277

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